

EXPLANATION OF PLATE XXIII.

- Fig. 1. Dorsal view, $\times 3$.
 Fig. 2. Antennule.
 Fig. 3. Antenna.
 Fig. 4. Left maxilla, inner side.
 Fig. 5. Part of left maxilla, outer side.
 Fig. 6. First maxilla, outer lobe.
 Fig. 7. First maxilla, inner lobe.
 Fig. 8. Left maxillipede.
 Fig. 9. Second thoracic appendage. *p.d.*, pit-like depression.
 Fig. 10 *a*. First right abdominal appendage.
 Fig. 10 *b*. Second right abdominal appendage.
 Fig. 11. Uropod from right side.

LXIV.—*A new Nycteris from N.W. Rhodesia.*

By KNUD ANDERSEN.

Nycteris woodi, sp. n.

A member of the *N. ethiopica* group (see Ann. & Mag. N. H. (8) x. p. 549, Nov. 1912), differing from the other representatives of the same group by its much smaller size and relatively longer ears, and from all other forms of the genus by having the fur of the underparts pure white, without any trace of darker bases to the hairs.

Forearm 42.5 mm.; ear from base of inner margin (relaxed) about 29. Skull, total length to front of canine 18.2; condylo-canine length 15.8; maxillary tooth-row (crowns) 6.

Type, skin and skull of an adult, Chilanga, N.W. Rhodesia, 4100', Nov. 1913, presented by R. C. Wood, Esq. B.M. 14. 4. 22. 2.

LXV.—*On small Mammals from Djarkent, Central Asia.*

By OLDFIELD THOMAS.

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THE British Museum owes to the generosity of the Hon. N. Charles Rothschild the donation of a series of upwards of 300 small mammals collected by Mr. W. Rückbeil at Djarkent, Semiretchensk, Central Asia, a place situated on the Uszek River, Middle Ili, at the western end of the Thian-shan Mountains. A few specimens were also obtained by

Mr. Rückbeil at Przewalsk, on the Issyk-kul, about 150 miles to the south-west of Djarkent.

The collection is of so much value to the Museum and so much scientific interest that I have thought it advisable to give a full list of it.

Thirty-one species are included, of which six prove to be new.

1. *Nyctalus noctula*, Schr.

Thirteen specimens.

2. *Pipistrellus pipistrellus lacteus*, Temm.

Fourteen.

For reasons as to the use of the name *lacteus* see Ann. & Mag. Nat. Hist. (8) iii. p. 258 (1909).

3. *Erinaceus albulus*, Stol.

Seven.

4. *Neomys fodiens orientis*, subsp. n.

Male. "From the swamps of the River Kamennaja retschka."—*W. R.*

Size rather large; fur long. Tail short, with well-developed white fringe and white pencil at tip. Colour as in true *fodiens*, the under surface washed with yellowish white. Sole-pads apparently larger than in the European form.

Skull with rather higher and more rounded brain-case, the lateral flanges not so abruptly projected outwards. Interparietal not so far projected forwards between the parietals as in most specimens of *fodiens*.

Teeth.—Anterior upper incisor slenderer, less abruptly curved downwards, more projected forwards than in *fodiens*, the anterior curved edge forming a smaller segment of a larger circle. Front unicuspid longer than in *fodiens*, its outer cingulum more nearly horizontal.

Dimensions of the type (measured in the flesh):—

Head and body 88 mm.; tail 55; hind foot 18.

Skull: condylo-basal length 21.1; condylo-incisive length 22; breadth across brain-case 10.8; bottom of nasal notch to front angle of interparietal 15.5; height of brain-case from basion 5.9; upper tooth-series 10.5; basal diameter of shaft of *i*¹ 0.8; horizontal length of anterior unicuspid 1.5.

Type. Adult male. B.M. no. 14. 5. 10. 33. Original number 378. Collected 30th December, 1913.

This water-shrew is very like the *N. fodiens* of Northern Europe, but would seem to be sufficiently distinguished by the characters above described. Owing to its long rich fur, strongly contrasted coloration, and well-marked white caudal fringe it is even more beautiful than most examples of the European animal.

5. *Sorex araneus*, Linn.

Two. "In die Schlucht Narin."—*W. R.*

Although with rather more prominent front incisors than ordinary *araneus*, and thus leading on towards the species now to be described, these shrews can be matched in this respect by some Scandinavian specimens, and may therefore be assigned to *S. araneus*. On the other hand, the shrew of the same group from the Thian-shan should certainly bear a special name. Indeed, I distinguished and named it some years ago, but its description seems never to have been published.

Sorex asper, sp. n.

Allied to *S. araneus*, but the upper incisors and unicuspid much enlarged.

Colour brown, no tricolor pattern perceptible. Under surface of a summer specimen also brown, little lighter than the upper colour; of a winter specimen hoary grey with slaty bases to the hairs. Fur of summer specimen 4, of winter specimen 7.5 mm. in length.

Skull like that of *S. araneus*, but the muzzle longer.

Anterior upper incisors large, heavy, much projected forwards, their upper front profile starting forwards nearly horizontally from the bone supporting them, instead of being continued in the same slanting line as the profile of the bone. Unicuspid very large and heavy, the combined length of the first three 2.3 mm., their breadth especially great in proportion. Molars not larger than in *araneus*, so that the muzzle is longer in proportion than in that species.

Dimensions of the type (measured in the flesh):—

Head and body 65 mm.; tail 37; hind foot 12; ear 8.

Skull: condylo-basal length 19.5; condylo-incisive length 20.2; breadth across brain-case 9.6; tooth-series 9; front of i^1 to front of p^4 4.5.

Hab. Thian-shan. Type from the Tekes Valley, others from Kok-su.

Type. Adult male. B.M. no. 5. 4. 8. 2. Collected

11th September, 1904, and presented by Mr. A. B. Bayley-Worthington. Seven specimens.

6. *Sorex minutus*, L.

Fifteen.

7. *Crocidura ilensis*, Mill.

Twelve.

8. *Felis caudata*, Gray.

Two.

9. *Putorius eversmanni*, Less.

Male.

The British Museum series of Asiatic polecats shows these animals to be by no means so unvarying in colour as might be supposed from Mr. Hollister's statement as to their constancy. In two cases sets from the same place differ considerably *inter se*, as, for instance, in the brown or white colour of the crown, and there is, of course, always a wide difference between winter and summer specimens.

10. *Mustela erminea ferghanæ*, Thos.

Three males, in winter pelage.

In addition to these three specimens I have before me a female in winter pelage from Przewalsk (Coll. Kutsenko) and the type, in summer pelage, from Mt. Kara-Karyk, Ferghana (Coll. Barey). The last was said by its collector to be a male, a statement I published when describing the subspecies; but while the skin shows no external evidence of sex, its agreement in size and skull-characters with Mr. Kutsenko's female is so close that I am now disposed to think that it also is a female.

This mistake, to which I regret that I gave currency, may result in the invalidation of Mr. Hollister's "*Mustela lymani*," described on a male so much larger than the Ferghana specimen that Mr. Hollister appeared to be quite justified in distinguishing it, on the assumption that the sexes were the same. Further summer skins of both forms will, however, be needed before this question can be definitely settled.

11. *Mustela sacana*, sp. n.

♂ & ♀. Przewalsk.

Proportions and general appearance as in *M. altaica*, Pall. (*M. alpina*, Gebl.), the body of a similar buffy colour above,

and the crown vinaceous buff. Under surface pale yellowish white, not sharply defined laterally, yellower on the throat and belly, becoming gradually whiter on the chin and undersides of limbs, but without the marked contrast between a pure white chin and a strongly yellow or buffy throat. Palms and soles with an intermediate state of hairiness between that found in *altaica* and *longstaffi*, the ends of the digits and the median pad exposed, but less so than in *longstaffi*, and the proximal carpal pad—prominently open in the latter species—quite hidden in the fur.

Skull and teeth about as in *altaica*, though the inner edge and antero-internal corner of the bullæ are less angularly prominent.

Dimensions of the type (measured on the skin, and therefore only approximate):—

Head and body 280 mm.; tail 180; hind foot 45.

Skull: basal length 48·5; greatest breadth 28·5; interorbital breadth 11·5; intertemporal breadth 10·2; mastoid breadth 24; palatal length 23·7; maxillary tooth-row 16·3; p^4 6; m^1 , transverse diameter 4·3, breadth of inner lobe 2·4.

Type. Adult male. B.M. no. 14. 5. 10. 64. Original number 438.

This fine weasel is intermediate in characters, as in locality, between *M. altaica* of the Altai and *M. longstaffi* of the Upper Sutlej and Ladak; and it is possible that hereafter all three may be considered as subspecies of one widely spread species. The marked differences in the degree of hairiness of the feet, however, prevent my adopting this course without further intergrading material. Apart from the feet, *M. sacana* may be distinguished from *altaica* by the absence of contrast in the colour of the chin and throat, from *longstaffi* by its more yellowish belly, not defined laterally, and from *M. temon* by its larger size.

12. *Mustela* sp. (probably *pallida*, B.-Ham.).

Two males in winter pelage.

Barrett-Hamilton's type of *pallida* being a female, and both the present specimens being males in winter pelage, it is impossible to express any definite opinion as to the latter's relationship to *pallida* or to Blandford's *stoliczkana*, of which the figured skull is, however, larger than those of Mr. Rückbeil's two males.

13. *Mustela nivalis*, L.

Four males, one in summer, one in changing, and two in winter pelage.

A small form of weasel, corresponding closely to *M. n. caucasica*, Barr.-Ham.

14. *Marmota centralis*, Thos.

Five.

15. *Dyromys angelus*, Thos. (?).

Male (immature).

Too young to be determined with certainty.

16. *Meriones tamaricinus*, Pall.

Twenty-one.

17. *Meriones meridianus*, Pall.

Ten.

18. *Rhombomys opimus*, Licht.

Fourteen.

19. *Mus wagneri*, Eversm.

Twelve.

Differ a good deal among themselves. Some may be related to *M. pachycercus*, Blanf.

20. *Apodemus tscherga*, Kashtch.

Ten.

Topotypes of *A. microtis*, Mill.

21. *Cricetulus fulvus*, Blanf.

Eighteen.

22. *Erotomys centralis*, Mill.

♂. 291. "In Wald Schluchtes Tischkan."—*W. R.*

23. *Arvicola terrestris scythicus*, subsp. n.

Twelve specimens.

A large race of the Scandinavian *terrestris*.

Size nearly equalling that of *amphibius*. General colour about as in *amphibius* or in light-coloured examples of *terrestris*, not so dark as is commonly the case in the latter; the reddening of the cheeks characteristic of *terrestris* well marked. Tail black, scarcely lighter below, its tip in nearly every specimen with a small white pencil.

Skull nearly as large as in *amphibius*, but with the fossorial characteristics of that of *terrestris* not only well marked but intensified; the incisors even more thrown forward and the supraoccipital area so slanted forward that in vertical view it equals the interparietal in apparent extent. In *amphibius* it is scarcely visible at all from above, in *sapidus* and *terrestris* it appears decidedly less in extent than the interparietal, and only in the small and nearly completely fossorial *scherman* does it equal the interparietal as in *scythicus*. Though large, the skull is not highly ridged, certainly less so than in *amphibius*.

Teeth about as in *terrestris*, the incisors slightly more thrown forwards. M^3 consisting of only three triangles and a simple posterior lobe, as in Scandinavian *terrestris* (cf. Blasius's figure 188 *).

Dimensions of the type (measured in flesh):—

Head and body 200 mm. †; tail 130; hind foot 34.

Skull: condylo-basal length 42; condylo-incisive length 42·5; zygomatic breadth 24·8; nasals 11·6 × 4·7; palatilar length 22·6; upper molar series 9·6.

Type. Old female. B.M. no. 14. 5. 10. 154. Original number 255. Collected 5th May, 1913.

This water-vole is a large race of the Scandinavian *A. terrestris*, with which it agrees in its more essential characters. It will probably be found to be the form which occurs throughout Asiatic Russia.

The striking revision of the water-voles recently published by Mr. Miller ‡ has alone enabled me to appreciate the true relationship of this fine animal.

24. *Microtus (Microtus) ilaeus*, Thos.

Nineteen specimens.

The type of this well-marked species was in the first collection sent by Mr. Rückbeil (B.M. no. 11. 12. 14. 30).

The specimens are labelled as having been caught along the banks of the Uzek and Ili Rivers.

Some of the skulls have an unusually long median spike at the posterior end of the palate, while in others this is entirely absent.

25. *Microtus (Microtus) obscurus*, Eversm.

Thirty specimens.

* Säug. Deutschl. p. 345.

† This measurement is probably too large. Other specimens are measured as 166, 167, and 178 mm. in trunk-length.

‡ Cat. Mamm. W. Europe, p. 724 (1912).

Of the two small voles of this region I assigned, in my paper on the Carruthers mammals, the name *eversmanni*, Poliakoff, to the *Microtus*, and not to the *Stenocranius*, on the ground that Büchner's figure of the skull clearly indicated a *Microtus* and that, as he mentions Poliakoff's original specimens, this figure might be supposed to be taken from one of them. Whether Büchner's Przwalski specimens were of the same form or not did not affect the question.

Since I wrote, however, Mr. Hollister*, in agreement with Kashtchenko, has again put *eversmanni* into *Stenocranius*, and I therefore now accept his conclusion, at least until an expert examination can be made of the types in St. Petersburg.

26. *Microtus (Stenocranius) tianschanicus*, Büchn.

Four specimens.

"In die Schlucht Tischkan."

27. *Alticola worthingtoni subluteus*, subsp. n.

♂. 324; ♀. 323. "In die Schlucht Tischkan."

Like true *worthingtoni* in all essential characters, but the pure white of the end of the hairs of the lower surface replaced by "pale pinkish buff" (Ridgway, 1912). Hands, feet, and tail also with a slight buffy tinge.

Skull and teeth as in *worthingtoni*.

Dimensions of the type (measured in flesh):—

Head and body 95 mm.; tail 40; hind foot 20; ear 16.

Skull: greatest length 26.5; upper tooth-row 5.7.

Type. Slightly immature female. B.M. no. 14. 5. 10. 186. Original number 323. Collected 20th July, 1913.

28. *Ellobius ursulus*, Thos.

Seventeen specimens. "In die Schlucht Malaja-Aksu."—*W. R.*

This series shows well how the colour intensifies as age advances, the younger specimens being greyish buff, while the older ones attain a rich cinnamon.

I can find no tangible difference between the Djarkent examples and the three original specimens obtained by Mr. Carruthers on the southern slopes of the Barlik Mountains.

By the help of this series, however, I am now able to distinguish the skull of *ursulus* from that of the Samarkand

* Proc. U.S. Nat. Mus. xlv. p. 516 (1913).

fusciceps, of which I originally described this *Ellobius* as a subspecies.

In *E. fuscipes* the lambdoid ridge is continuous and well defined right across the skull, bowed forwards in its middle third. In *ursulus* it is practically obsolete for this middle third, the crown and occipital areas passing almost smoothly into one another. In *ursulus*, also, m^3 tends to be rather simpler than in *fusciceps*.

29. *Allactaga rüchbeili*, sp. n.

Six.

A. mongolica group.

Size about as in *A. suschkini* and *mongolica*, larger than in *saltator*. Colour rather paler than in our examples of *saltator*. Crown distinctly greyer than back. Ears proportionally long, apparently about as long as in *suschkini*. Hands and feet pure white; central sole-pad uncovered in all the specimens, covered with hair in all the available examples of *mongolica* and *saltator*. Tail buffy above, white below, with well-marked white ring before the black one, black ring varying from about 45 to 55 mm., measured from its commencement in the middle line to the tips of the longest hairs; white terminal tufts short, only about 30–35 mm. measured in the same way.

Skull larger than in *saltator*, with shorter muzzle than in *mongolica*.

Dimensions of the type:—

Head and body 150 mm.; tail 220; hind foot (s. u.) 76; ear 49.

Skull: greatest length, occiput to gnathion, 39; condylo-incisive length 38.3; zygomatic breadth 25.8; nasals 14.3 × 6; interorbital breadth 10.8; breadth of brain-case 19; palatal length 22.5; palatal foramina 8.7; molar series (exclusive of premolar) 6.3.

Type. Adult female. B.M. no. 14. 5. 10. 203. Original number 247. Collected 6th April, 1913.

“On banks of River U szek.”

This jerboa is probably most nearly allied to *A. suschkini*, from north of the Aral Sea, but is distinguished by having a well-marked white ring before the black one of the tail, no trace of such a ring being present in *suschkini*, and, on the other hand, by its very much shorter white terminal tuft. From *A. saltator* it is distinguished by its larger size and the more open condition of the foot-pads. Mr Hollister's *A. grisescens*, coming not only from the general region, but

from the actual type-locality of *saltator*, must, I think, be synonymous with it. Like that animal, it is distinctly smaller than *A. rückbeili*.

I have connected Mr. Rückbeil's name with this jerboa in recognition of the pains he has taken in making this interesting collection of Djarkent mammals.

30. *Allactaga elater*, Licht.

Eleven.

31. *Lepus* sp.

Three.

Probably *L. lehmanni*, Sev.

32. *Ochotona sacana*, sp. n.

Seven from Przewalsk.

Like *O. macrotis*, but warmer coloured, especially on the flanks.

Size and all essential characters as in *O. macrotis*. General colour above in winter pelage buffy brown of a considerably warmer and stronger tone than the whitish buffy of the winter pelage of *macrotis*. On the sides and rump, instead of getting whiter, the ends of the hairs become more rufous, so that the flanks are distinctly cinnamon, the basal two-thirds of the hairs being, however, still dark plumbeous and a subapical band white. Under surface dull whitish, faintly washed with cinnamon. Centre of face pale cinnamon. Ears large, blackish brown on proectote, greyish white on metentote. Hands and feet buffy white above; palms and soles greyish.

Skull as in *O. macrotis*. Frontal vacuities present in all the specimens.

Dimensions of the type (measured on skin):—

Head and body (e.) 200 mm.; hind foot 33; ear 28.

Skull: greatest length 47; condylo-incisive length 44; zygomatic breadth 22·5; nasals 16 × 5·5; interorbital breadth 5·3; breadth of brain-case above meatus 18; palatal foramina 13·5 × 4·7; breadth of palatal bridge 1·8; upper tooth-series (alveoli) 9.

Hab. Przewalsk.

Type. Adult male. B.M. no. 14. 5. 10. 219. Original number 442. Collected 15th December, 1913.

While undoubtedly nearly allied to *O. macrotis*, this pika

is readily distinguishable by its cinnamon-washed sides and rump and the more blackish backs to its ears. Mr. Caruthers's Karakoram specimens of *macrotis* are, like these, in full winter pelage, and have afforded good material for comparison.

LXVI.—*Three new S.-American Mammals.*

By OLDFIELD THOMAS.

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Pseudalopex smithersi, sp. n.

Ps. culpæus group, but the body reddish throughout.

Size apparently rather less than in *culpæus*. Fur soft and thick, not very long. Colour wholly unlike that of any known *Pseudalopex*, owing to the black on the tips of the hairs, which forms so prominent a feature in the colouring of other species, being here replaced by rich ochraceous red, the underfur being still creamy buff terminally and slaty basally. On the tail alone the terminal brush is, as usual, black, the bases of the hairs buffy, and the hairs of the caudal gland are black terminally and white for their basal two-thirds; the hairs of the rest of the tail tipped with rich ferruginous. As a result we have an animal which is bright reddish, head, body, and limbs, though, owing to the buffy underfur, the colour is not as strong as in some of the purely red *Canidæ*. Under surface dull buffy whitish on throat and lower belly, deeper and more pinkish buffy on the chest and sides of belly. Chin with a slight darkening, as in *culpæus*, not a definite black patch as in the *azarica* group; nor is there any trace of a dark patch on the back of the thighs.

Dimensions, owing to the specimen being a made-up tanned skin, not able to be taken, but the size appears to be somewhat less than in *Ps. culpæus*.

Hab. Sierra de Cordoba, Argentina.

Type. Adult skin, without skull. B.M. no. 14. 3. 18. 1. Obtained and presented by W. A. Smithers, Esq.

This most remarkable mountain-fox is closely related to *Pseudalopex culpæus*, but is at once distinguished from that and every other member of the genus by the replacement of the grizzled black and white of the body by rich ferruginous.

Mr. Smithers had heard of this interesting inhabitant of the Cordoba highlands for some time, and has at last been able to obtain a hunter's skin of it. Though without a skull, there can be no doubt whatever either as to its affinities or of its distinctness from any previously described species.

It has been to Mr. Smithers that we already owe the specimens of Azara's fox which I took as typical of *Pseudalopex azarica*, and I now have great pleasure in connecting his name with the present striking animal, in whose discovery he has been instrumental.

Microsciurus avunculus, sp. n.

Closely similar to *M. napi*, but markedly larger throughout.

Size a little larger than in any described species. General colour above finely grizzled olive-brown, the fore back slightly greyer, the hind back warmer. Chest greyish "cinnamon-buff," not such a bright ochraceous as in *M. rubrirostris*; belly and inner sides of hind limbs dull tawny, toned down by the slaty bases of the hairs. Crown finely ticked with ochraceous, a little warmer than nape, more like hind back, not so ochraceous as in *rubrirostris*. Ears with their inner surface grizzled ochraceous; outer surface grey anteriorly, with a large whitish patch posteriorly, the upper part of this patch buffy. Hands and feet grizzled ochraceous. Edges of tail pale buffy.

Skull conspicuously larger than that of *M. napi*, about as in *M. rubrirostris*.

Dimensions of the type:—

Hind foot, s. u. 39, c. u. 42 mm.; ear 15.

Skull: tip of nasals to front of interparietal 35.5; condylo-incisive length 34; zygomatic breadth 23.3; nasals 11 × 4.8; interorbital breadth 14.2; breadth of brain-case 19; palatal length 16; tooth-row (exclusive of p^3) 6.2.

Hab. Oriente of Ecuador. Type from Gualaquiza; alt. 2500'.

Type. Young adult male. B.M. no. 14. 4. 25. 53. Original number 312. Collected 31st November, 1913, by Gilbert Hammond. Presented by Oldfield Thomas.

This species is in colour quite like *M. napi*, which occurs in the same region, but is so much larger, as evidenced by its skull- and tooth-measurements, that it is clearly different. It is probably most nearly related to *M. rubricollis*, the species I have always regarded as *M. peruanus*, Allen, but is distinguished from both by its much duller and less contrasted under surface.